

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of)
)
WESTERN WIRELESS)
CORPORATION)
)
Petition for Preemption of an Order)
of the South Dakota Public Utilities)
Commission)

CC Docket No. 96-45

RECEIVED

SEP 17 1999

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

U S WEST COMMUNICATIONS, INC. REPLY COMMENTS

I. INTRODUCTION

None of the following points established in U S WEST Communications, Inc.'s ("U S WEST") Comments were effectively rebutted in the commentary of other parties:

- The Petition is moot because it is undisputed Western Wireless Corporation ("WWC") failed to provide any evidence that it satisfied even the weakened standard it advocates (capacity and intent to offer and advertise throughout the service area of its choice).¹
- The South Dakota Public Utility Commission ("SDPUC") simply followed the plain language of Section 214(e)(1) in requiring that WWC actually offer and advertise throughout the service area WWC itself proposed in order to become an Eligible Telecommunications Carrier ("ETC").² Therefore, no preemption is possible.

¹ U S WEST Comments at 5-6.

² Id. at 6-8, citing in part to Texas Office of Public Util. Counsel v. FCC, ___ F.3d ___, 1999 U.S. App. LEXIS 17941 *39-40 (5th Cir. 1999) ("TOPUC"). And see, Public Notice, Procedures for FCC Designation of Eligible Telecommunications Carriers Pursuant to Section 214(e)(1) of the Communications Act, 12 FCC Rcd. 22947 (1997) (carrier must demonstrate it presently meets offer-and-advertise requirements); Application of GCC License Corporation for Certification as an Eligible Telecommunications Carrier pursuant

- Even if the Section 214(e)(1) offer-and-advertise requirement were some sort of Section 253(a) prohibition³ (also referred to as a barrier to entry), it would not be preempted because that Congressional mandate is necessary to ensure viability of the Federal Universal Service Fund, and it applies equally to all applicants regardless of technology.⁴
- In any event, the Section 214(e)(1) offer-and-advertise requirement is not a Section 253(a) prohibition.⁵

Therefore, none of the foregoing points need be rehashed in any detail with one exception that bears emphasis: The last of the foregoing points goes to the heart of the Petition, and the commentary filed by the parties underscores the absolute dearth of evidence of any prohibition of the ability to provide service. Such commentary is the topic of these reply comments.

II. THERE IS NOT A SCINTILLA OF EVIDENCE OF A SECTION 253(a) PROHIBITION

Four other parties agreed with U S WEST that there is no evidence of a Section 253(a) prohibition.⁶ Furthermore, the parties supporting WWC's Section 253(a) hyperbole, including WWC, merely trotted out the same old tired rhetoric about barriers to entry without actually discussing even a scintilla of evidence to support that haggard old song. No evidence was attached to the

to the Telecommunications Act of 1996, Cause PUD No. 980000470 at 3-4 (OCC, 5/13/99) (Official Transcript of Proceedings, Oral Ruling of the ALJ).

³ Actually, such a characterization is impossible by the very plain text of Section 253(a), which bars only state or local regulations, not federal ones, such as the Section 214(e)(1) offer-and-advertise requirement.

⁴ U S WEST Comments at 11-13.

⁵ Id. at 9-11.

⁶ See, e.g., Coalition of Rural Telephone Companies at 12-19; Rural Telephone Coalition at 10-16; United States Telephone Association at 2-4; South Dakota Independent Telephone Coalition at 17-34.

comments; the pro-preemption parties merely made the following blustery arguments without anything to back them up:

WWC –

- The SDPUC holding is “so onerous as to prevent Western Wireless (or any other carrier) from being designated as an ETC.”⁷
- The “demands of the SDPUC serve as a barrier to entry because (i) they fly in the face of the economics of the telecommunications marketplace and the pro-competitive principles of the Act, and (ii) they make it impossible for non-incumbents to enter into markets.”⁸
- The SDPUC “requirement effectively precludes new entrants from ever qualifying as ETCs.”⁹
- The “SDPUC’s denial of ETC status *itself* makes it impossible for Western Wireless to provide the service that would enable it to qualify, in the SDPUC’s eyes, as an ETC.”¹⁰

Association for Local Telecommunications Services (“ALTS”) –

- “[T]here are certain, high cost areas in the country for which, without a subsidy, no carrier could economically provide service.”¹¹

⁷ WWC at 3-4.

⁸ Id. at 4.

⁹ Id. at 5.

¹⁰ Id. at 6 (quoting WWC Petition at 12).

¹¹ ALTS at 4.

- The SDPUC “Order clearly has the effect of prohibiting Western Wireless, and presumably any other new entrant, from entering many of the more rural and high cost markets in South Dakota.”¹²

Personal Communications Industry Association (“PCIA”) –

- The SDPUC Order “has the effect of prohibiting Western Wireless from providing universal service.”¹³

AT&T Corp. (“AT&T”) –

- The SDPUC set “an impossibly high standard” that “is a barrier to entry in the South Dakota market.”¹⁴

None of these aggressive assertions is backed up by even the slightest bit of evidence.

Indeed, WWC’s Form 10-K (attached hereto as Exhibit A) contradicts the idea of difficulties in entering rural areas. That document is replete with WWC statements to the effect that it has decided that its most profitable strategy is to enter rural markets because there is no competition; there is high growth potential; and most important, such markets are low cost for WWC.¹⁵

¹² Id.

¹³ PCIA at 4-5.

¹⁴ AT&T at 1.

¹⁵ The PCIA also trumpeted the fact that CMRS is lower cost than landline telephony suggesting ease of entry. PCIA at 3, 6 (touting relative low cost and efficiency of wireless). It is however, interesting that the pro-preemption parties back off of this argument when it hurts them. AT&T at 6 (implying high costs to support argument that WWC cannot afford to enter). One particular party even stooped to misquoting the holding of the SDPUC as requiring the applicant to actually provide service throughout the service area when the

Furthermore, there is no mention of universal service support at all, let alone as a *sine qua non* of rural entry. The following quotes are illustrative:

- “Western Wireless’ principal focus is on the operation of cellular systems in rural markets. . . Western Wireless believes that analog cellular is the optimum technology for these rural areas because they are less susceptible to competition and have a greater capacity for future growth than most major markets.”¹⁶
- Several “inherent attributes of RSAs and small MSAs make such markets attractive. . . Such attributes include high subscriber growth rates, population bases of customers with substantial needs for wireless communications, the ability to cover larger geographic areas with fewer Cell Sites than is possible in urban areas, less intense competitive environments and less vulnerability to PCS competition.”¹⁷
- WWC “targets a customer base which it believes is likely to generate higher monthly service revenues, while attempting to achieve a low cost of adding new subscribers.”¹⁸

Nor is there any evidence that the Section 214(e)(1) offer-and-advertise requirement would run afoul of footnote 31 of the TOPUC decision. WWC argues, again without supporting evidence, that by following the Section

holding merely required that the applicant offer throughout the service area proposed and chosen by the applicant. AT&T at 1.

¹⁶ Exhibit A, WWC Form 10-K at 5.

¹⁷ Id. at 6 (emphasis added).

¹⁸ Id. at 8.

214(e)(1) offer-and-advertise requirement the SDPUC ensured that “no otherwise eligible carrier could receive designation.”¹⁹ In fact, this obviously is not true. For example, a competitive local exchange carrier (“CLEC”) purchasing unbundled network elements (“UNE”) clearly could satisfy the Section 214(e)(1) standard.²⁰ In addition, WWC itself has not even attempted to show that, if it had chosen a smaller proposed service area, then it would have had difficulty in meeting the Section 214(e)(1) standard.²¹

II. THE SECTION 253(a) STANDARD FOR PREEMPTION IS EXTREMELY DIFFICULT TO MEET

This vacuum of evidence occurs in the face of a very high standard for preemption. Section 253(a) bars local regulation only if it has the effect of “prohibiting the ability of any entity to provide any . . . telecommunications service.”²² The FCC has stated that this standard requires, in part, that the petitioner prove that the regulation complained of renders entry (not attaining ETC status) “not economically viable.”²³ WWC bears the burden of proving such a “prohibition” on its ability to provide service. Thus, one would expect WWC and others to have submitted affidavits and other documentation

¹⁹ WWC Comments at 7. The *TOPUC* court stated in dicta that a requirement with such effect “would probably run afoul of §214(e)(2)’s mandate to ‘designate’ a carrier or ‘designate more than one carrier.’” *TOPUC* at *41 n.31.

²⁰ Cf. AT&T at 7, n.7.

²¹ See Part IV, *infra*.

²² 47 U.S.C. § 253(a) (emphasis added).

²³ See AT&T at 7 n.7.

showing some prohibition and the lack of economic viability of entry, but there is no evidence at all, only unsupported and illogical argument.²⁴

III. THE CIRCUMSTANCES OF WHICH WWC COMPLAINS ARE THE SAME ONES UNDER WHICH U S WEST PROVIDES UNIVERSAL SERVICE WITHOUT SUPPORT

In addition to the paucity of evidence to support it, here is also a fundamental conceptual flaw in the Section 253(a) argument: that the offer-and-advertise requirement is not a barrier to entry or a prohibition is conclusively proven by the fact that the circumstances cited by the preemption parties as constituting an unlawful prohibition are exactly those that incumbent ETCs had to weather and often still do weather in high cost areas without receiving support. AT&T has characterized the Section 253(a) argument as a “Hobson’s choice” in which WWC must either provide service in the high cost area at a price with a nice markup included (and capture no customers) or charge a lower price to obtain customers in the high cost area (but receive no profit on those high cost customers).²⁵ Oddly enough, as U S WEST pointed out in its comments, this is exactly the type of situation U S WEST faces today in South Dakota, yet it continues to provide affordable

²⁴ Moreover, the argument is misguided. It is not aimed at proving Section 214(e)(1) is a barrier; it is aimed at proving that Section 214(e)(1) is not an affirmative aid to entrants in rural areas. AT&T at 8. That, of course, is beside the point. Universal service’s goal is not competition in rural areas. Rather, universal service’s modern purpose is ubiquitous affordable basic service without doing harm to competition. It should do so through explicit support, rather than implicit subsidy. In this way, ILECs are not competitively harmed by the old implicit subsidy system that handicaps them in low cost areas.

²⁵ AT&T at 6.

service to high cost areas without receiving support.²⁶ It does this by way of implicit subsidies from low cost service areas -- the same way WWC can. In other words, AT&T has pointed out not a Hobson's choice, but a red herring.

IV. WWC MAY HAVE ITSELF CREATED OBSTACLES TO ENTRY
(IF ANY EXIST) BY ITS OWN CHOICE OF SERVICE AREA

To the extent WWC actually has difficulty offering and advertising throughout the entire state of South Dakota, it has only itself to blame and not the Section 214(e)(1) requirement. As the FCC has made clear, WWC can choose its own service area and make it as small or large as it wants, subject to FCC approval.²⁷ In other words, WWC is not stuck with the service area of the incumbent ETC or any other service area. If the incumbent ETC's service area is too large for WWC to enter all at once, then WWC could define and propose for itself a smaller (or several smaller) service areas, easing entry. WWC did not do this. Instead, it chose the entire state of South Dakota as its proposed service area. In other words, any entry difficulty due to service area issues is not preempted because it is not caused by local regulation, but by WWC itself.

V. CONCLUSION

The SDPUC acted correctly and lawfully in denying WWC's ETC application. That application was barren of evidence to satisfy the explicit offer-and-advertise-throughout requirement of Section 214(e)(1). Intent is all WWC offered up to satisfy the duty to actually offer and advertise, and that is

²⁶ U S WEST Comments at 11-12.

insufficient. Moreover, WWC's Section 253(a) prohibition argument is as short on evidence as it is long on rhetoric. The Petition must therefore be denied.

Respectfully submitted,

U S WEST COMMUNICATIONS, INC.

By: Steven R. Beck
Steven R. Beck (RL)
Suite 700
1020 19th Street, N.W.
Washington, DC 20036
(303) 672-2736

Of Counsel,
Dan L. Poole

September 17, 1999

²⁷ Procedures for FCC Designation of ETCs, 12 FCC Rcd. 22947 (1997) (fifth requirement of petition is service area petitioner "requests the Commission to designate.").

EXHIBIT A

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**
Washington, DC 20549

Form 10-K

☒ Annual Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934
For the fiscal year ended December 31, 1998

Or

☐ Transition Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934
For the transition period from _____ to _____

Commission File Number 000-28160

WESTERN WIRELESS CORPORATION

(Exact name of registrant as specified in its charter)

Washington

(State or other jurisdiction of incorporation or organization)

91-1638901

(IRS Employer Identification No.)

3650 131st Avenue S.E.

Bellevue, Washington

(Address of principal executive offices)

98006

(Zip Code)

(425) 586-8700

(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act: **None**

Securities registered pursuant to Section 12(g) of the Act: **Class A Common Stock**

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. ☒

The aggregate market value of the voting stock held by nonaffiliates of the registrant, computed by reference to the last sale of such stock as of the close of trading on March 5, 1999, was \$1,061,771,643.

Indicate the number of shares outstanding of each of the issuer's classes of common stock, as of the latest practicable date.

Title	Shares Outstanding as of March 5, 1999
Class A Common Stock, no par value	42,748,299
Class B Common Stock, no par value	33,591,093

Documents Incorporated By Reference

Portions of the following documents are incorporated by reference into the indicated parts of this Form 10-K:
1999 Proxy Statement - Part III.

Western Wireless Corporation
Form 10-K
For the Year Ended December 31, 1998

Table of Contents

PART I

Item 1. BUSINESS	3
Item 2. PROPERTIES.....	25
Item 3. LEGAL PROCEEDINGS	25
Item 4. SUBMISSION OF MATTERS TO A VOTE OF SECURITY HOLDERS	25
EXECUTIVE OFFICERS OF THE REGISTRANT.....	26

PART II

Item 5. MARKET FOR REGISTRANT'S COMMON EQUITY AND RELATED STOCKHOLDER MATTERS.....	28
Item 6. SELECTED FINANCIAL DATA	29
Item 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS	30
Item 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA	39
Item 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE.....	39

PART III

Item 10. DIRECTORS AND EXECUTIVE OFFICERS OF THE REGISTRANT	40
Item 11. EXECUTIVE COMPENSATION.....	40
Item 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT	40
Item 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS.....	40

PART IV

Item 14. EXHIBITS, FINANCIAL STATEMENTS, SCHEDULES AND REPORTS ON FORM 8-K.....	41
---------------------------------------------------------------------------------	----

Cautionary statement for purposes of the "Safe Harbor" provisions of the Private Litigation Reform Act of 1995. The following information contains statements that are not based on historical fact, including the words "believes," "anticipates," "intends," "expects" and similar words. These statements constitute "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. Such forward-looking statements involve known and unknown risks, uncertainties and other factors that may cause the actual results, events or developments to be significantly different from any future results, events or developments expressed or implied by such forward-looking statements. Such factors include: 1) general economic and business conditions, both nationally and in the regions in which Western Wireless operates; 2) technology changes; 3) competition; 4) changes in business strategy or development plans; 5) Western Wireless' potentially high level of debt; 6) the ability to attract and retain qualified personnel; 7) existing governmental regulations and changes in, or the failure to comply with, governmental regulations; 8) liability and other claims asserted against Western Wireless; and 9) Western Wireless' ability and the ability of its third-party suppliers to take corrective action in a timely manner with respect to the Year 2000 issue.

Given these uncertainties, we caution prospective investors not to place undue reliance on such forward-looking statements. Western Wireless disclaims any obligation to update any such factors or to publicly announce any revisions to any of the forward-looking statements contained herein to reflect future results, events or developments.

PART I

Item 1. BUSINESS

Introduction

Western Wireless Corporation ("Western Wireless") provides wireless communications services in the United States principally through the ownership and operation of cellular and personal communications services ("PCS") systems. The cellular operations are primarily in rural areas and the PCS operations are primarily in urban areas due to Western Wireless' belief that there are certain strategic advantages to operating each technology in these respective areas. As of December 31, 1998, Western Wireless provides cellular services in 17 western states under the Cellular One® brand name. Western Wireless provides PCS services through its 80.1% ownership in VoiceStream Wireless Corporation ("VoiceStream"). VoiceStream had commenced commercial operations in ten markets under the VoiceStream® brand name as of December 31, 1998 (an eleventh market commenced commercial operations in February 1999). VoiceStream PCS services are also offered in three additional markets in conjunction with joint ventures (a fourth market commenced commercial operations in February 1999).

On February 8, 1999, Western Wireless announced its intention to separate VoiceStream from Western Wireless' other operations (the "Spin-off"). Western Wireless has received a favorable ruling by the Internal Revenue Service for a tax free spin-off, and the approval by its board of directors to take the necessary steps to complete the Spin-off. Western Wireless will distribute all of its interest in VoiceStream to its shareholders upon the Spin-off. Although VoiceStream has been operated separately from Western Wireless' other operations and has been a separate legal entity since its inception, the Spin-off will establish VoiceStream as a stand-alone entity with objectives separate from those of Western Wireless. The Spin-off is subject to numerous conditions including, among others, the receipt of certain government and third party approvals. There is no assurance that such conditions will be met to complete the Spin-off.

Background

The Wireless Communications Industry

Overview

Wireless communications systems use a variety of radio frequencies to transmit voice and data. Broadly defined, the wireless communications industry includes one-way radio applications, such as paging or beeper services, and two-way radio applications, such as cellular, PCS and Enhanced Specialized Mobile Radio ("ESMR") networks. Each such application is licensed in a distinct radio frequency block.

Since its introduction in 1983, wireless service has grown dramatically. As of June 30, 1998, according to the Cellular Telecommunications Industry Association ("CTIA") there were over 60.8 million wireless subscribers in the United States, representing a penetration rate of 22.4%.

In the wireless communications industry, there are two principal frequency bands licensed by the Federal Communications Commission ("FCC") for transmitting two way voice and data signals, "cellular" and "PCS." Cellular systems are generated at 824 to 899 MHz and can be either analog or digital. Although all cellular systems provide analog capabilities, digital technology has been introduced by most carriers in urban markets. Analog technology has several limitations, including lack of privacy and limited capacity. Digital systems convert voice or data signals into a stream of digits that is compressed before transmission, enabling a single radio channel to carry multiple simultaneous signal transmissions. This enhanced capacity, along with improvements in digital signaling, allows digital-based wireless technologies to offer new and enhanced services, such as greater call privacy, and robust data transmission features, such as "mobile office" applications (including facsimile, electronic mail and wireless connections to computer/data networks, including the internet).

PCS is a term commonly used in the United States to describe a portion of radio spectrum from 1850 to 1990 MHz. PCS spectrum was auctioned by the FCC in six frequency blocks (A-F) beginning with the A and B Blocks in late 1994 and 1995. In late 1995 and in 1996 the C Block was auctioned and the FCC concluded simultaneous auctions of the D, E and F Blocks in 1997. In 1999, the FCC intends to reacquire portions of the C, D, E and F Blocks returned to the FCC. This portion of radio spectrum is to be used by PCS licensees to provide wireless communications services. PCS competes directly with existing cellular telephone, paging and specialized mobile radio ("SMR") services. PCS includes features that are not generally offered by analog cellular providers, such as data transmissions to and from computers, advanced paging services and facsimile services. In addition, wireless providers may eventually offer mass market wireless local loop applications in competition with wired local communications services.

Operation of Wireless Communications Systems

Wireless communications system service areas, whether cellular or PCS, are divided into multiple cells. Due to the frequencies in which they operate, a single cell in a cellular system generally transmits over a wider radius than a comparable PCS cell. In both cellular and PCS systems, each cell contains a transmitter, a receiver and signaling equipment (the "Cell Site"). The Cell Site is connected by microwave or landline telephone lines to a switch that uses computers to control the operation of the wireless communications system for the entire service area. The system controls the transfer of calls from cell to cell as a subscriber's handset travels, coordinates calls to and from handsets, allocates calls among the cells within the system and connects calls to the local landline telephone system or to a long distance telephone carrier. Wireless communications providers establish interconnection agreements with local exchange carriers and inter-exchange carriers, thereby integrating their system with the existing landline communications system.

Because the signal strength of a transmission between a handset and a Cell Site declines as the handset moves away from the Cell Site, the switching office and the Cell Site monitor the signal strength of calls in progress. When the signal strength of a call declines to a predetermined level, the switching office may "hand off" the call to another Cell Site where the signal strength is stronger. If a handset leaves the service area of a cellular or PCS system, the call is disconnected unless there is a technical connection with the adjacent system.

Wireless system operators normally agree to provide service to subscribers from other compatible wireless systems who are temporarily located in or traveling through their service areas in a practice called "roaming." Agreements among system operators provide that the carrier that normally provides services to the roaming subscriber pays the serving carrier at rates prescribed by the serving carrier. Analog cellular handsets are functionally compatible with cellular systems in all markets within the United States. As a result, analog cellular handsets may be used wherever a subscriber is located, as long as a cellular system is operational in the area and necessary roaming arrangements exist. Although PCS and cellular systems utilize similar technologies and hardware, they operate on different frequencies and use different technical and network standards. Dual mode phones, however, make it possible for users of one type of system to "roam" on a different type of system outside of their service area.

PCS systems operate under one of three principal digital signal transmission technologies, or standards, that have been deployed by various operators and vendors for use in PCS systems: GSM, TDMA or CDMA. GSM is the most widely used digital wireless standard in the world serving over 120 million subscribers in approximately 130 countries. A benefit associated with GSM technology is its use of an open system architecture that allows operators to purchase network equipment from a variety of vendors that share standard interfaces for operation. This open architecture provides flexibility by the operator in vendor cost leveraging, and provisioning of features, products and services.

GSM and TDMA are both based upon time-division of spectrum and are currently incompatible with each other and with CDMA. Accordingly, a subscriber of a system that utilizes GSM technology is currently unable to use a GSM handset when traveling in an area not served by GSM-based PCS operators, unless the subscriber carries a dual-mode handset that permits the subscriber to use the analog cellular system in that area. Under a memorandum of understanding between GSM operators in the United States and Canada and the association of TDMA operators in the United States and Canada, there are plans to promote the interoperability of GSM and TDMA standards.

The TDMA-based PCS standard offers the same features and services offered by the time division-based digital cellular standard currently in use by certain cellular operators in the United States, including AT&T Wireless Services Inc. ("AT&T Wireless") and Southwestern Bell Wireless ("Southwestern Bell"). Both the CDMA- and TDMA-based PCS standards use a closed system architecture that will limit PCS operators' choices of equipment vendors. The CDMA standard is the most widely adopted digital standard in the United States. CDMA-based PCS systems offer the same features and services offered by CDMA-based cellular systems.

The Cellular Business of Western Wireless

After the Spin-off Western Wireless will continue to operate domestic cellular services, paging and competitive local exchange services in select U.S. markets and international telecommunications operations through joint ventures.

General

Western Wireless operates high quality cellular systems in 17 western states, serving over 660,000 cellular subscribers under the Cellular One brand name. To support its rapidly growing subscriber base, Western Wireless operates and maintains extensive centralized management, back office functions and a call center in the state of Washington. Western Wireless also operates paging systems in eight western states serving 35,900 paging customers at December 31, 1998.

Through international joint ventures, Western Wireless has interests in (and in certain cases manages) wireless licenses in several foreign countries, including Ghana, Iceland, Haiti, Croatia and the Republics of Latvia and Georgia. In addition, Western Wireless has interests in entities which have made wireless license applications in certain other foreign countries. Western Wireless does not own a controlling interest in any of these joint ventures. As such each of these joint ventures is accounted for using the equity method as of December 31, 1998. A joint venture which Western Wireless controls has been notified by the Irish Government that it is the preferred applicant for a DCS-1800/GSM 900 mobile communication license in Ireland. The license has not yet been issued, as the decision by the Irish Government is subject to a pending legal proceeding.

Cellular Strategy

Western Wireless' principal focus is on the operation of cellular systems in rural markets in the United States. Western Wireless believes that analog cellular is the optimum technology for these rural areas because they are less susceptible to competition and have a greater capacity for future growth than most major markets.

Western Wireless' operating strategy is to position itself as the premier rural communications provider in the United States. This strategy requires that it: (i) maintain and operate high quality systems with extensive coverage; (ii) expand operations through increased subscriber growth and usage; (iii) utilize centralized management, back office functions and its own sales force to improve operating efficiencies and generate greater economies of scale; and (iv) acquire additional cellular licenses in rural areas.

Western Wireless is implementing its strategy by: (i) continually upgrading and maintaining its present systems to allow for more functionality and quality performance; (ii) offering a targeted range of products and services to complement today's business and personal lifestyles at competitive prices; and (iii) providing a superior level of customer service.

Western Wireless has roaming arrangements with virtually every cellular carrier in North America including roaming arrangements with certain cellular carriers adjacent to Western Wireless' markets that provide attractive rates to Western Wireless' customers when roaming in these surrounding areas. In addition, Western Wireless has roaming arrangements with several wireless service providers, including AT&T Wireless, Sprint PCS L.P. ("Sprint PCS"), AirTouch Communications, Inc. ("AirTouch"), Southwestern Bell and U.S. West Wireless ("U.S. West") that allow their customers to roam in Western Wireless' cellular markets. Western Wireless allows PCS subscribers to roam in its markets through the use of dual and tri-mode handsets.

Western Wireless Formation

Western Wireless was formed in July 1994 as the result of a business combination (the "Business Combination") among various companies, including Markets Cellular Limited Partnership d/b/a Pacific Northwest Cellular, a Delaware limited partnership ("MCLP"), and General Cellular Corporation, a Delaware corporation ("GCC"). GCC commenced operations in 1989 and MCLP was formed in 1992. As a result of the Business Combination and a series of related transactions, Western Wireless became the owner of all of the assets of MCLP. Accordingly, all financial data relating to Western Wireless herein with respect to periods after the date of the Business Combination reflect the operations of GCC and MCLP and all such data with respect to prior periods reflect only the operations of GCC, which, for accounting purposes, is considered Western Wireless' predecessor.

Cellular Markets and Systems

Western Wireless operates cellular systems in 16 smaller Metropolitan Statistical Areas ("MSA") and 76 Rural Service Areas ("RSA"), and generally owns 100% of each of its cellular licenses that cover approximately 7.6 million people. Western Wireless' experience is that several inherent attributes of RSAs and small MSAs make such markets attractive. See "Cellular Governmental Regulation Licensing of Cellular Systems". Such attributes include high subscriber growth rates, population bases of customers with substantial needs for wireless communications, the ability to cover larger geographic areas with fewer Cell Sites than is possible in urban areas, less intense competitive environments and less vulnerability to PCS competition.

See the summarized financial results of Western Wireless' cellular operations in the footnotes to the consolidated financial statements located in Part II of this Form 10-K.

Population data in the following table is estimated for 1999 based upon 1998 estimates by Equifax Marketing Decision Systems, Inc. ("Equifax") adjusted by Western Wireless by applying Equifax's growth factors from 1997 to 1998.

Cellular License Area (1)	Population	Cellular License Area (1)	Population
<i>California</i>		<i>Nevada</i>	
Mono (CA-6)	29,000	Humbolt (NV-1)	46,000
<i>California Total</i>	<u>29,000</u>	Lander (NV-2)	57,000
<i>Colorado</i>		Mineral (NV-4)	36,000
Pueblo	134,000	White Pine (NV-5)	15,000
Fremont (CO-4)	89,000	<i>Nevada Total</i>	<u>154,000</u>
Elbert (CO-5)	34,000	<i>New Mexico</i>	
Saguache (CO-7)	50,000	Lincoln (NM-6)	245,000
Kiowa (CO-8)	46,000	<i>New Mexico Total</i>	<u>245,000</u>
Costilla (CO-9)	30,000	<i>North Dakota</i>	
<i>Colorado Total</i>	<u>383,000</u>	Bismarck	91,000
<i>Idaho</i>		Fargo	167,000
Idaho (ID-2) (2)	78,000	Grand Forks	102,000
<i>Idaho Total</i>	<u>78,000</u>	Divide (ND-1)	104,000
<i>Iowa</i>		Bottineau (ND-2)	59,000
Sioux City	123,000	McKenzie (ND-4)	64,000
Monona (IA-8)	54,000	Kidder (ND-5)	47,000
<i>Iowa Total</i>	<u>177,000</u>	<i>North Dakota Total</i>	<u>634,000</u>

<i>Kansas</i>		<i>Oklahoma</i>	
Jewell (KS-3)	52,000	Cimarron (OK-1)	27,000
Marshall (KS-4)	123,000	Beckham (OK-7)	127,000
Cellular		Jackson (OK-8)	96,000
License Area (1)	Population	Cellular	
Ellsworth (KS-8)	129,000	License Area (1)	Population
Morris (KS-9)	58,000	<i>Oklahoma Total</i>	<u>250,000</u>
Franklin (KS-10)	111,000	<i>South Dakota</i>	
Reno (KS-14)	173,000	Rapid City	109,000
<i>Kansas Total</i>	<u>646,000</u>	Sioux Falls (3)	142,000
<i>Minnesota</i>		Harding (SD-1)	37,000
Kirtson (MN-1)	50,000	Corson (SD-2)	23,000
Lake of the Woods		McPherson (SD-3)	53,000
(MN-2-A1)	26,000	Marshall (SD-4)	69,000
Chippewa (MN-7)	173,000	Custer (SD-5)	27,000
Lac qui Parie (MN-8)	67,000	Haakon (SD-6)	41,000
Pipestone (MN-9)	134,000	Sully (SD-7)	66,000
<i>Minnesota Total</i>	<u>450,000</u>	Kingsbury (SD-8)	74,000
<i>Missouri</i>		Harrison (SD-9)	100,000
Bates (MO-9)	79,000	<i>South Dakota Total</i>	<u>741,000</u>
<i>Missouri Total</i>	<u>79,000</u>	<i>Texas</i>	
<i>Montana</i>		Abilene	153,000
Billings (3)	125,000	Lubbock	234,000
Great Falls	80,000	Midland (3)	117,000
Lincoln (MT-1)	151,000	Odessa (3)	123,000
Toole (MT-2)	37,000	San Angelo	104,000
Malta (MT-3)	14,000	Dallam (TX-1)	57,000
Daniels (MT-4)	39,000	Hansford (TX-2)	90,000
Mineral (MT-5)	190,000	Parmer (TX-3)	141,000
Deer Lodge (MT-6)	64,000	Briscoe (TX-4)	42,000
Fergus (MT-7)	30,000	Hardeman (TX-5)	76,000
Beaverhead (MT-8)	93,000	Gaines (TX-8)	136,000
Carbon (MT-9)	32,000	Hudspeth (TX-12)	27,000
Prairie (MT-10)	20,000	Reeves (TX-13)	32,000
<i>Montana Total</i>	<u>875,000</u>	Loving (TX-14)	46,000
<i>Nebraska</i>		<i>Texas Total</i>	<u>1,378,000</u>
Lincoln	236,000	<i>Utah</i>	
Cherry (NE-2)	30,000	Juab (UT-3)	59,000
Knox (NE-3)	116,000	Beaver (UT-4)	120,000
Grant (NE-4)	35,000	Piute (UT-6)	27,000
Columbus (NE-5)	148,000	<i>Utah Total</i>	<u>206,000</u>
Keith (NE-6)	110,000	<i>Wyoming</i>	
Hall (NE-7)	92,000	Casper	63,000
Chase (NE-8)	58,000	Sheridan (WY-2)	76,000
Adams (NE-9)	80,000	Cheyenne, Laramie (WY-4)	134,000
Cass (NE-10)	87,000	Douglas (WY-5)	12,000
<i>Nebraska Total</i>	<u>992,000</u>	<i>Wyoming Total</i>	<u>285,000</u>
		<i>Cellular Total</i>	<u>7,602,000</u>

- (1) Excludes one market containing a population of 88,000 in which Western Wireless operates under an Interim Operating Authority.
- (2) The population for Idaho 2 includes 5,000 persons in the Idaho 3 RSA because Western Wireless has construction permits to build Cell Sites in portions of Idaho 3 under its Idaho 2 license.
- (3) Western Wireless owns approximately 98% of the Billings license, 99% of the Sioux Falls license, 96% of the Midland license and 96% of the Odessa license.

In addition to the license areas listed in the above table, Western Wireless has announced the intention to purchase the Brownsville and McAllen MSAs in southern Texas from another cellular provider. These MSAs include a population of approximately 850,000. This acquisition is expected to close during the second quarter of 1999.

Cellular Products and Services

Western Wireless offers its subscribers high quality cellular communications, as well as several custom calling services, such as call forwarding, call waiting, conference calling, voice message storage and retrieval, data services and no-answer transfer. In addition, all subscribers can access local government emergency services from their cellular handsets (with no air time charge) by dialing 911. Western Wireless will continue to evaluate new products and services that may be complementary to its wireless operations. Western Wireless has designed several pricing options to meet the varied needs of its customer base. Most options consist of a fixed monthly charge (with varying allotments of included minutes, in some cases), plus additional variable charges per minute of use. In addition, in most cases Western Wireless separately charges for its custom calling features.

Western Wireless provides extended regional and national service to cellular subscribers in its markets, through its membership in North American Cellular Network ("NACN") and other regional networking arrangements, thereby allowing them to make and receive calls while in other cellular service areas without dialing special access codes. NACN is the largest wireless telephone network system in the world, linking non-wireline cellular operators throughout the United States, Canada, Puerto Rico and the Virgin Islands. Western Wireless also has special roaming arrangements with certain cellular carriers in areas adjacent to Western Wireless' markets that provide Western Wireless' customers attractive rates when roaming in these surrounding areas.

Cellular Marketing, Sales and Customer Service

Western Wireless' sales and marketing strategy is to generate continued net subscriber growth and increased subscriber revenues. In addition, Western Wireless targets a customer base which it believes is likely to generate higher monthly service revenues, while attempting to achieve a low cost of adding new subscribers.

Marketing - Western Wireless markets its cellular products and services in all markets under the name Cellular One. Cellular One, the first national brand name in the cellular industry, is currently utilized by a national coalition of cellular licensees in 48 states with a combined estimated population of over 115 million. The national advertising campaign conducted by the Cellular One Group enhances Western Wireless' advertising exposure at a lesser cost than what could be achieved by Western Wireless alone.

Sales - Western Wireless sells its products and services through a combination of direct and indirect channels. Western Wireless operates 165 retail sales locations under the Cellular One brand name and utilizes a direct sales force of over 1,000 persons based out of these offices, who are trained to educate new customers on the features of its products. Sales commissions generally are linked both to subscriber revenue and subscriber retention, as well as activation levels.

Western Wireless believes that its local sales offices provide the physical presence in local markets necessary to position Cellular One as a quality local service provider, and give Western Wireless greater control over both its costs and the sales process. Western also utilizes indirect sales through an extensive network of national and local merchant and specialty retailers. Western Wireless intends to continue to use a combination of direct and indirect sales channels, with the mix depending on the demographics of each particular market.

In addition, Western Wireless acts as a retail distributor of handsets and maintains inventories of handsets. Although subscribers generally are responsible for purchasing or otherwise obtaining their own handsets, Western Wireless has historically sold handsets below cost to respond to competition and general industry practice and expects to continue to do so in the future.

Customer Service - Customer service is a significant element of Western Wireless' operating philosophy. Western Wireless is committed to attracting and retaining subscribers by providing consistently superior customer service. In Issaquah, Washington, Western Wireless maintains a highly sophisticated monitoring and control system, a staff of customer service personnel and a well-trained technical staff to handle both routine and complex questions as they arise, 24 hours a day, 365 days a year. Western Wireless has announced its intention to open a new call center in Manhattan, Kansas during 1999, to support its growing subscriber base.

Western Wireless implements credit check procedures at the time of sale and continuously monitors customer churn (the rate of subscriber attrition). Western Wireless believes that it helps manage its churn through an outreach program by its sales force and customer service personnel. This program not only enhances subscriber loyalty, but also increases add-on sales and customer referrals. The outreach program allows the sales staff to check customer satisfaction, as well as to offer additional calling features, such as voice mail, call waiting and call forwarding.

Cellular Suppliers and Equipment Vendors

Western Wireless does not manufacture any of the handsets or Cell Site equipment used in its operations. The high degree of compatibility among different manufacturers' models of handsets and Cell Site equipment allows Western Wireless to design, supply and operate its systems without being dependent upon any single source of such equipment. The handsets and Cell Site equipment used in the operations are available for purchase from multiple sources, and anticipates that such equipment will continue to be available in the foreseeable future. Western Wireless currently purchases handsets primarily from Motorola, Inc., NEC Inc. and Nokia Telecommunications, Inc. ("Nokia") and its Cell Site and switching equipment primarily from Northern Telecom, Inc. and Lucent Technologies, Inc.

Cellular Competition

Competition for subscribers among wireless licensees is based principally upon the services and features offered, the technical quality of the wireless system, customer service, system coverage, capacity and price. Under current FCC rules, there may be up to seven PCS licensees in each geographic area in addition to the two existing cellular licensees. Also, SMR dispatch system operators have constructed digital mobile communications systems on existing SMR frequencies, referred to as ESMR, in many cities throughout the United States, including some of the markets in which Western Wireless operates.

Western Wireless has one cellular competitor in each of its cellular markets including AirTouch, Aliant Communications, Inc., CommNet Cellular Inc., Kansas Cellular, Southwestern Bell and United States Cellular Corporation. Western Wireless has one PCS competitor in some of its largest markets. Western Wireless also competes with paging, dispatch and conventional mobile telephone companies, resellers and landline telephone service providers in its cellular markets. Potential users of cellular systems may, however, find their communications needs satisfied by other current and developing technologies. One or two-way paging services that feature voice messaging and data display as well as tone only service may be adequate for potential subscribers who do not need to speak to the caller. In the future, cellular service may also compete more directly with traditional landline telephone service providers.

The FCC requires all cellular and PCS licensees to provide service to "resellers." A reseller provides wireless service to customers but does not hold an FCC license or own facilities. Instead, the reseller buys blocks of wireless telephone numbers and capacity from a licensed carrier and resells service through its own distribution network to the public. Thus, a reseller is both a customer of a wireless licensee's services and also a competitor of that licensee. Several small resellers currently operate in competition with Western Wireless.

In the future, Western Wireless expects to face increased competition from entities providing similar services using other communications technologies, including satellite-based telecommunications systems. While some of these technologies and services are currently operational, others are being developed or may be developed in the future.

Cellular Intellectual Property

Cellular One is a service mark registered with the United States Patent and Trademark Office. The service mark is owned by Cellular One Group, a Delaware general partnership comprised of Cellular One Marketing, Inc., a subsidiary of Southwestern Bell, together with Cellular One Development, Inc., a subsidiary of AT&T and Vanguard Cellular Systems, Inc. Western Wireless uses the Cellular One service mark to identify and promote its cellular telephone service pursuant to licensing agreements with Cellular One Group. The licensing agreements require Western Wireless to provide high-quality cellular telephone service to its customers, and to maintain a certain minimum overall customer satisfaction rating in surveys commissioned by Cellular One Group. The licensing agreements that Western Wireless has entered into are for original five-year terms expiring on various dates. Assuming compliance by Western Wireless with the provisions of the agreements, each of these agreements may be renewed at Western Wireless' option for three additional five-year terms.

Western Wireless holds federal trademark registration of the mark "Western Wireless" and has registered or applied for various other trade and service marks with the United States Patent and Trademark Office.

Cellular Governmental Regulation

The FCC regulates the licensing, construction, operation, acquisition and sale of cellular systems in the United States pursuant to the Communications Act of 1934 (the "Communications Act"), as amended from time to time, and the rules, regulations and policies promulgated by the FCC thereunder.

Licensing of Cellular Systems

A cellular communications system operates under a protected geographic service area license granted by the FCC for a particular market on one of two frequency blocks allocated for cellular service. One license for each market was initially awarded to a company or group that was affiliated with a local landline telephone carrier in such market and is called the wireline or "B" band license and the other license is called the non-wireline or "A" band license. Following notice of completion of construction, a cellular operator obtains initial operating authority. Cellular authorizations are generally issued for a 10-year term beginning on the date of the initial notification of construction by a cellular carrier. Under FCC rules, the authorized service area of a cellular provider in each of its markets is referred to as the Cellular Geographic Service Area or CGSA. A cellular licensee has the exclusive right to serve the entire area that falls within the licensee's MSA or RSA for a period of five years after grant of the licensee's construction permit. At the end of the five-year period, however, the licensee's exclusive CGSA rights become limited to the area actually served by the licensee as of that time, as determined pursuant to a formula adopted by the FCC. After the five-year period any entity may apply to serve portions of the MSA or RSA not being served by the licensee. The five year exclusivity period has expired for most licensees and parties have filed unserved area applications, including some in Western Wireless markets.

Near the conclusion of the 10-year license term, licensees must file applications for renewal of licenses. The FCC has adopted specific standards to apply to cellular renewals, under which standard the FCC will award a renewal expectancy to a cellular licensee that (i) has provided substantial service during its past license term and (ii) has substantially complied with applicable FCC rules and policies and the Communications Act. Violations of the Communications Act or the FCC's rules could result in license revocations, forfeitures or fines. Western Wireless has approximately 70 cellular licenses which will be subject to renewal in the next three years. While Western believes that each of its cellular licenses will be renewed, there can be no assurance that all of the licenses will be renewed.

Cellular radio service providers must also satisfy a variety of FCC requirements relating to technical and reporting matters. One such requirement is the coordination of proposed frequency usage with adjacent cellular users, permittees and licensees in order to avoid electrical interference between adjacent systems. In addition, the height and power of base station transmitting facilities and the type of signals they emit must fall within specified parameters. The FCC has also provided guidelines respecting cellular service resale and roaming practices and the terms under which certain ancillary services may be provided through cellular facilities.

Under the FCC's current rules specifying spectrum ownership limits affecting cellular licensees, no entity may hold licenses for more than 45 MHz of cellular, PCS and SMR services regulated as Commercial Mobile Radio Service ("CMRS") where there is significant overlap in any geographic area (significant overlap will occur when at least ten percent of the population of the PCS licensed service area is within the CGSA and/or SMR service area, as defined by the FCC). The FCC is currently reexamining these ownership limits.

Western Wireless owns cellular licenses serving markets that are wholly or partially within the Denver MTA and the Oklahoma City MTA, resulting in Western Wireless exceeding the FCC's current 45 MHz CMRS cross ownership restriction described above. Western Wireless has filed waiver requests with the FCC with respect to both MTAs, both of which are pending, and has been allowed to delay compliance with the ownership restriction until the FCC rules on the waiver requests. In the event that this restriction is not waived or the rule itself revised, either VoiceStream or Western Wireless will be obligated to divest sufficient portions of their markets in the Denver and Oklahoma City MTA to come into compliance with the rules. Western Wireless does not believe such restriction or any actions Western Wireless or VoiceStream is required to take to comply therewith will have a material adverse effect on Western Wireless due to the relatively minor geographic overlap.

Cellular systems are subject to certain FAA regulations respecting the location, lighting and construction of transmitter towers and antennae and may be subject to regulation under the National Environmental Policy Act and the environmental regulations of the FCC. State or local zoning and land use regulations also apply to Western Wireless' activities. Western Wireless uses, among other facilities, common carrier point to point microwave facilities to connect Cell Sites and to link them to the main switching office. These facilities are separately licensed by the FCC and are subject to regulation as to technical parameters and service.

The Communications Act preempts state and local regulation of the entry of, or the rates charged by, any provider of commercial mobile radio service ("CMRS") or any private mobile radio service, which CMRS includes cellular service.

Western Wireless has purchased its cellular licenses from private parties or the federal government. Western Wireless has used a combination of debt and equity financing to acquire such licenses.

Transfers and Assignments of Cellular Licenses

The Communications Act and FCC rules require the FCC's prior approval of the assignment or transfer of control of a construction permit or license for a cellular system (proforma transfer of control does not require prior FCC approval). Subject to FCC approval, a license or permit may be transferred from a non-wireline entity to a wireline entity, or vice versa. Non-controlling interests in an entity that holds a cellular license or cellular system generally may be bought or sold without prior FCC approval. Any acquisition or sale by Western Wireless of cellular interests may also require the prior approval of the Federal Trade Commission and the Department of Justice, if over a certain size, as well as any state or local regulatory authorities having competent jurisdiction.

In addition, the FCC's rules prohibit the alienation of any ownership interest in an RSA application, or an entity holding such an application, prior to the grant of a construction permit. For unserved cellular areas, no change of control may take place until after the FCC has granted both a construction permit and a license and the licensee has provided service to the public for at least one year. These restrictions affect the ability of prospective purchasers, including Western Wireless, to enter into agreements for RSA and unserved area acquisitions prior to the lapse of the applicable transfer restriction periods. The restriction on sales of interests in RSA and unserved area applications and on agreements for such sales should not have a greater effect on Western Wireless or any other prospective buyer.

Western Wireless Employees and Labor Relations

Western Wireless considers its labor relations to be good and, to Western Wireless' knowledge, none of its employees is covered by a collective bargaining agreement. As of December 31, 1998, Western Wireless, excluding VoiceStream, employed a total of approximately 2,137 people in the following areas:

<u>Category</u>	<u>Number of Employees</u>
Sales and marketing	1,170
Engineering	149
General and administration, including customer service	818

The Business of Western Wireless International

After the Spin-off, Western Wireless International ("WWI") will continue to operate as a subsidiary of Western Wireless.

General Overview

WWI has pursued a strategy of obtaining interests in licenses to provide telecommunications serviced in a variety of countries. The elements of WWI's strategy are to find opportunities where, with local partners, the company can leverage its operating knowledge and construction capabilities to bring wireless telecommunications to markets it believes are underserved by the existing, if any, wireless operators. In addition, it has been the strategy of WWI to pursue ventures that it believes will result in a minimal amount of license costs to be paid to the licensing authority.

Operating companies in which WWI has a minority interest have begun operations in the Republics of Latvia and Georgia and Iceland and had a total of 75,000 subscribers as of December 31, 1998.

In addition, WWI has minority interests in licenses in Ghana, Haiti and Croatia. WWI expects the operating companies to begin to provide wireless services in each of these countries during 1999.

A joint venture which WWI controls has been notified by the Irish Government that it is the preferred applicant for a DCS-1800/GSM 900 mobile communication license in Ireland. The license has not yet been issued, as the decision by the Irish Government is subject to a pending legal proceeding.

The PCS Business of VoiceStream

After the Spin-off, Western Wireless and VoiceStream will operate as separate businesses. VoiceStream will continue to operate its PCS business in urban areas in the United States.

General

VoiceStream provides PCS services under the VoiceStream brand name in 11 urban markets — Denver, Seattle/Tacoma, Phoenix/Tucson, Portland, Salt Lake City, Des Moines, Oklahoma City, Honolulu, El Paso, Albuquerque and Boise — and is currently constructing systems in San Antonio and Austin. VoiceStream holds 107 broadband PCS licenses covering approximately 62.6 million persons. VoiceStream has experienced rapid growth of its operations since commencement in February 1996. VoiceStream's subscribers have grown to 322,400 at December 31, 1998, and revenues have grown to \$168.0 million for the year ended December 31, 1998. VoiceStream believes these results reflect the strong demand for wireless services in its markets, the success of its marketing strategy and its management capabilities.

VoiceStream believes its PCS service offerings are more extensive than those generally offered by cellular systems in VoiceStream's markets. Service offerings include all of the services typically provided by cellular systems, as well as paging, caller identification, text messaging, smart cards, voice mail, over-the-air activation and over-the-air subscriber profile management.

VoiceStream's goal is to achieve significant market penetration by aggressively marketing competitively priced services under its proprietary VoiceStream brand name, offering enhanced services not generally provided by cellular operators and providing superior customer service. In addition, VoiceStream is well-positioned to be a low-cost provider of PCS services by utilizing centralized management, marketing, billing and customer service functions, and by focusing on efficient customer acquisition and retention.

VoiceStream selected GSM as the digital standard for its PCS systems because it believes GSM has significant advantages over the other competing digital standards. These advantages include the widest array of features, and an open system architecture that provides cost advantages in choosing from a variety of equipment options and providers, which result from the experience of years of proven operability in Europe and Asia. GSM is the leading digital wireless standard in the world, with over 120 million customers in 130 countries.

VoiceStream has entered into roaming agreements with all of the licensees that have deployed the GSM standard in North America. Such agreements will allow VoiceStream's subscribers to roam in these carriers' PCS markets, and vice versa, when such systems are operational. VoiceStream also has approximately 90 reciprocal roaming agreements with a variety of international carriers who have chosen to deploy the GSM standard. In addition, VoiceStream has entered into roaming agreements with several cellular carriers, including Western Wireless.

VoiceStream Strategy

VoiceStream's principal focus is on the operation of PCS systems in urban markets in the United States. VoiceStream believes that PCS is the optimum technology for more densely populated urban areas where cellular systems are generally more expensive to deploy and face potential capacity constraints.

VoiceStream's operating strategy is to: (i) construct and operate high quality systems with extensive coverage in urban areas; (ii) expand operations through increased subscriber growth and usage; (iii) utilize centralized management, back office functions and its own sales force to improve operating efficiencies and generate greater economies of scale; and (iv) acquire additional PCS licenses in urban markets.

VoiceStream is implementing its strategy by: (i) expanding its present systems and building new systems; (ii) offering a targeted range of products to complement today's business and personal lifestyles at competitive prices; (iii) continually

upgrading the quality of its network; (iv) establishing brand recognition through a strong sales and marketing program; and (v) providing a superior level of customer service.

VoiceStream Formation

VoiceStream was formed in 1994 as "Western PCS Corporation" to participate on behalf of Western Wireless and its shareholders in FCC auctions of various PCS licenses. It was a wholly owned subsidiary of Western Wireless until February 1998, when Hutchison Telecommunications PCS (USA) Limited, ("Hutchison USA"), a subsidiary of Hutchison Whampoa Limited ("Hutchison"), invested \$248.4 million (the "Hutchison Investment") to purchase newly issued shares of common stock representing a 19.9 percent interest in VoiceStream.

VoiceStream Markets and Systems

VoiceStream owns 107 broadband PCS licenses, seven of which are for Major Trading Area ("MTA") license areas and 104 of which are for Basic Trading Area ("BTA") license areas, covering a total of approximately 62.6 million persons. See "—PCS Governmental Regulation, Licensing of PCS Systems." MTAs and BTAs are based on the Rand McNally 1992 Commercial Atlas and Marketing Guide, 123rd Edition, at pages 38-39 ("BTA/MTA Map"). Rand McNally organizes the 50 states and the District of Columbia into 47 MTAs and 487BTAs. The BTA/MTA map is available for public inspection at the Office of Engineering and Technology's Information Center, 2000 M Street, NW, Washington, D.C. 20554.

VoiceStream obtained its licenses as follows: (i) six MTA licenses in the FCC's A Block auction in 1995; (ii) one MTA license from another carrier in 1996; (iii) 92 BTA licenses in the FCC's D and E Block auctions in 1997; and (iv) eight BTA licenses from another carrier in October 1997. Cook Inlet Western Wireless PV/SS PCS, LP ("Cook Inlet PCS"), in which VoiceStream owns a 49.9% limited partnership interest, owns 18 PCS BTA licenses that were acquired in the FCC's C and F Block auctions. Cook Inlet PCS provides service in the Spokane, Tulsa, Phoenix/Tucson and Seattle/Tacoma markets. VoiceStream has also formed another joint venture with some of the same Cook Inlet PCS partners to participate in the FCC's reauction of C and F Block licenses. Through other joint ventures in which VoiceStream has an interest, PCS service is available in the Wichita market and certain markets in Iowa, and is anticipated to be available in certain markets in southern Texas in 1999. All of these operational markets use the internationally-proven GSM technology.

See the summarized financial results of VoiceStream's PCS operations in the footnotes to the consolidated financial statements located in Part II of the Form 10-K.

Population data in the following table is estimated for 1999 based upon 1998 estimates by Equifax adjusted by VoiceStream by applying Equifax's growth factors from 1997 to 1998.

<u>MTA/BTA License Area</u>	<u>Population</u>	<u>Block</u>	<u>MHz</u>
<i>Denver</i>			
Casper-Gillette.....	140,000	B	30 MHz
Cheyenne.....	109,000	B	30 MHz
Colorado Springs.....	513,000	B	30 MHz
Denver.....	2,478,000	B	30 MHz
Fort Collins.....	231,000	B	30 MHz
Grand Junction.....	233,000	B	30 MHz
Greeley.....	160,000	B	30 MHz
Pueblo.....	299,000	B	30 MHz
Rapid City.....	194,000	B	30 MHz
Riverton.....	49,000	B	30 MHz
Rock Springs.....	59,000	B	30 MHz
Scottsbluff.....	101,000	B	30 MHz
	<u>4,566,000</u>		
<i>Seattle</i>			
Olympia-Centralia.....	327,000	E	10 MHz
Seattle-Tacoma.....	3,090,000	E	10 MHz
	<u>3,417,000</u>		
<i>Phoenix</i>			

<u>MTA/BTA License Area</u>	<u>Population</u>	<u>Block</u>	<u>MHz</u>
Flagstaff	119,000	D	10 MHz
Nogales	40,000	D	10 MHz
Phoenix	3,191,000	D	10 MHz
Prescott	153,000	D	10 MHz
Sierra Vista-Douglas	114,000	D	10 MHz
Tucson	807,000	D	10 MHz
Yuma	126,000	D	10 MHz
	<u>4,550,000</u>		
<i>Portland</i>			
Bend	141,000	A	30 MHz
Coos Bay-North Bend	84,000	A	30 MHz
Eugene-Springfield	312,000	A	30 MHz
Klamath Falls	81,000	A	30 MHz
Longview	96,000	A	30 MHz
Medford-Grants Pass	249,000	A	30 MHz
Portland	2,041,000	A	30 MHz
Roseburg	103,000	A	30 MHz
Salem-Albany	514,000	A	30 MHz
	<u>3,621,000</u>		
<i>Salt Lake City</i>			
Logan	101,000	A	30 MHz
Provo-Orem	358,000	A	30 MHz
Salt Lake City	1,554,000	A	30 MHz
St. George	129,000	A, E	40 MHz
Boise-Nampa	538,000	A	30 MHz
Idaho Falls	211,000	A	30 MHz
Pocatello	102,000	A	30 MHz
Twin Falls	158,000	A	30 MHz
	<u>3,151,000</u>		
<i>El Paso-Albuquerque</i>			
Albuquerque	792,000	A	30 MHz
Carlsbad	54,000	A	30 MHz
Farmington-Durango	194,000	A	30 MHz
Gallup	141,000	A	30 MHz
Las Cruces	240,000	A	30 MHz
Roswell	79,000	A	30 MHz
Santa Fe	204,000	A	30 MHz
El Paso	772,000	A	30 MHz
	<u>2,476,000</u>		
<i>Oklahoma City</i>			
Ada	54,000	A	30 MHz
Ardmore	88,000	A	30 MHz
Enid	85,000	A, E	40 MHz
Lawton-Duncan	173,000	A	30 MHz
McAlester	53,000	A	30 MHz
Oklahoma City	1,391,000	A, E	40 MHz
Ponca City	46,000	A, E	40 MHz
Stillwater	76,000	A, E	40 MHz
	<u>1,966,000</u>		
<i>Des Moines-Quad Cities</i>			
Burlington	137,000	A	10 MHz
Cedar Rapids	280,000	A	10 MHz
Clinton-Sterling	146,000	A	10 MHz
Davenport-Moline	427,000	A	10 MHz
Des Moines(1)	776,000	A	10/30 MHz
Dubuque	177,000	A	10 MHz
Fort Dodge	126,000	A	10 MHz
Iowa City	122,000	A	10 MHz
Marshalltown	56,000	A	10 MHz
Mason City	116,000	A	10 MHz
Ottumwa	123,000	A	10 MHz
Sioux City	341,000	A	10 MHz
Waterloo-Cedar Falls	259,000	A	10 MHz
	<u>3,086,000</u>		

<u>MTA/BTA License Area</u>	<u>Population</u>	<u>Block</u>	<u>MHz</u>
<i>Honolulu</i>			
Hilo.....	142,000	A	30 MHz
Honolulu.....	866,000	A	30 MHz
Kahului-Wailuku-Lahaina.....	123,000	A	30 MHz
Lihue.....	57,000	A	30 MHz
	<u>1,188,000</u>		
<i>San Antonio</i>			
San Antonio.....	1,805,000	D	10 MHz
<i>Dallas-Fort Worth</i>			
Abilene.....	256,000	D	10 MHz
Amarillo.....	407,000	D	10 MHz
Austin.....	1,188,000	D	10 MHz
Big Spring.....	35,000	D	10 MHz
Brownwood.....	62,000	D	10 MHz
Clovis.....	80,000	E	10 MHz
Hobbs.....	56,000	D	10 MHz
Lubbock.....	404,000	E	10 MHz
Midland.....	122,000	D, E	20 MHz
Odessa.....	217,000	D, E	20 MHz
Paris.....	91,000	D	10 MHz
San Angelo.....	165,000	D	10 MHz
	<u>3,083,000</u>		
<i>St. Louis</i>			
Cape Girardeau.....	188,000	E	10 MHz
Carbondale-Marion.....	218,000	E	10 MHz
Columbia.....	208,000	E	10 MHz
Jefferson City.....	156,000	D	10 MHz
Kirkville.....	56,000	E	10 MHz
Mount Vernon.....	122,000	D	10 MHz
Poplar Bluff.....	155,000	D	10 MHz
Quincy-Hannibal.....	180,000	D	10 MHz
Rolla.....	93,000	D	10 MHz
St. Louis.....	2,822,000	E	10 MHz
West Plains.....	75,000	D	10 MHz
	<u>4,273,000</u>		
<i>Tulsa</i>			
Coffeyville.....	61,000	D	10 MHz
<i>Wichita</i>			
Hutchinson.....	124,000	D	10 MHz
Salina.....	143,000	D	10 MHz
Wichita.....	652,000	D	10 MHz
	<u>919,000</u>		
<i>Chicago</i>			
Jacksonville.....	71,000	E	10 MHz
<i>Cincinnati-Dayton</i>			
Dayton-Springfield.....	1,209,000	E	10 MHz
<i>Cleveland</i>			
Ashtabula.....	102,000	E	10 MHz
Canton-New Philadelphia.....	526,000	E	10 MHz
Cleveland-Akron.....	2,964,000	E	10 MHz
East Liverpool-Salem.....	111,000	E	10 MHz
Erie.....	278,000	E	10 MHz
Mansfield.....	226,000	E	10 MHz
Meadville.....	89,000	E	10 MHz
Sandusky.....	140,000	E	10 MHz
Sharon.....	122,000	E	10 MHz
Youngstown-Warren.....	480,000	E	10 MHz
	<u>5,038,000</u>		

Kansas City

<u>MTA/BTA License Area</u>	<u>Population</u>	<u>Block</u>	<u>MHz</u>
Manhattan-Junction City	110,000	D	10 MHz
<i>Little Rock</i>			
Fayetteville-Springdale	292,000	E	10 MHz
Fort Smith	311,000	D	10 MHz
Harrison	87,000	D	10 MHz
Hot Springs	132,000	D	10 MHz
Jonesboro-Paragould	174,000	E	10 MHz
Little Rock	920,000	D	10 MHz
Pine Bluff	148,000	D	10 MHz
Russellville	93,000	E	10 MHz
	<u>2,157,000</u>		
<i>Milwaukee</i>			
Milwaukee	1,789,000	D	10 MHz
<i>Minneapolis-St. Paul</i>			
Aberdeen	87,000	D	10 MHz
Bemidji	64,000	D	10 MHz
Bismarck	127,000	E	10 MHz
Fargo	307,000	E	10 MHz
Grand Forks	208,000	D	10 MHz
Huron	54,000	D	10 MHz
Mitchell	84,000	D	10 MHz
Sioux Falls	232,000	D	10 MHz
Watertown	76,000	D	10 MHz
Willmar-Marshall	84,000	E	10 MHz
Worthington	96,000	D	10 MHz
	<u>1,419,000</u>		
<i>Omaha</i>			
Grand Island	148,000	E	10 MHz
Hastings	72,000	E	10 MHz
Lincoln	332,000	E	10 MHz
McCook	34,000	E	10 MHz
Norfolk	112,000	E	10 MHz
North Platte	85,000	E	10 MHz
	<u>783,000</u>		
<i>Richmond-Norfolk</i>			
Danville	168,000	E	10 MHz
Lynchburg	161,000	E	10 MHz
Martinsville	90,000	E	10 MHz
Norfolk-VA Beach	1,763,000	E	10 MHz
Richmond-Petersburg	1,202,000	E	10 MHz
Staunton-Waynesboro	107,000	E	10 MHz
	<u>3,491,000</u>		
<i>San Francisco-San Jose</i>			
San Francisco	6,965,000	E	10 MHz
<i>Spokane-Billings</i>			
Billings	307,000	E	10 MHz
Bozeman	77,000	E	10 MHz
Butte	67,000	D	10 MHz
Great Falls	164,000	E	10 MHz
Helena	67,000	D	10 MHz
Kalispell	72,000	D	10 MHz
Kennewick-Pasco	189,000	D	10 MHz
Lewiston-Moscow	123,000	E	10 MHz
Missoula	164,000	D	10 MHz
Walla Walla-Pendleton	169,000	D	10 MHz
	<u>1,399,000</u>		
<i>VoiceStream Total</i>	<u>62,593,000</u>		

(1) VoiceStream contributed portions of the Des Moines MTA license to Iowa Wireless (defined below). As a result, VoiceStream owns 30 MHz of the license for certain counties within the Des Moines BTA but only 10 MHz for the remainder of the Des Moines BTA.

Cook Inlet PCS

Cook Inlet PCS is a Delaware limited partnership ultimately controlled by Cook Inlet Region, Inc., an Alaska Native Regional Corporation, which qualifies Cook Inlet PCS for additional benefits available to a small business under FCC rules. VoiceStream holds a 49.9% partnership interest in Cook Inlet PCS. Cook Inlet PCS began operations in the Tulsa market in June 1997, in the Phoenix/Tucson market in November 1998 and in the Seattle/Tacoma and Spokane markets in February 1999. Cook Inlet PCS has not yet finalized its construction plans for the other licenses it owns. For the Phoenix/Tucson and Seattle/Tacoma markets, Cook Inlet PCS and VoiceStream have entered into agreements allowing system leasing, resale and roaming, enabling each of them to operate on the systems constructed for the markets.

Cook Inlet PCS owns FCC licenses to provide wireless communications services in the following 18 BTA license areas. See "— PCS Governmental Regulation, Licensing of PCS Systems."

<u>MTA/BTA License Area</u>	<u>Population</u>	<u>Block</u>	<u>MHz</u>
<i>Cincinnati-Dayton</i>			
Cincinnati	2,139,000	F	10 MHz
<i>Dallas-Fort Worth</i>			
Temple-Killeen	354,000	F	10 MHz
<i>Kansas City</i>			
Pittsburg-Parsons	90,000	F	10 MHz
<i>Phoenix</i>			
Phoenix(1)	3,191,000	F	10 MHz
Tucson(1)	807,000	F	10 MHz
	<u>3,998,000</u>		
<u>MTA/BTA License Area</u>	<u>Population</u>	<u>Block</u>	<u>MHz</u>
<i>Seattle</i>			
Aberdeen	91,000	C	15 MHz
Bellingham	161,000	F	10 MHz
Bremerton	242,000	C	15 MHz
Port Angeles	93,000	C	15 MHz
Seattle-Tacoma(1)	3,090,000	F	10 MHz
Wenatchee	211,000	C	15 MHz
Yakima	259,000	C	15 MHz
	<u>4,147,000</u>		
<i>Spokane-Billings</i>			
Spokane	733,000	C	15 MHz
Walla Walla-Pendleton(1)	169,000	C	15 MHz
	<u>902,000</u>		
<i>Tulsa</i>			
Bartlesville	47,000	C	15 MHz
Coffeyville(1)	61,000	C	15 MHz
Muskogee	159,000	C	15 MHz
Tulsa	910,000	C	15 MHz
	<u>1,177,000</u>		
<i>Cook Inlet PCS Total</i>	<u>12,807,000</u>		

(1) VoiceStream also owns 10 MHz E Block licenses for these BTAs.

Iowa Wireless

Iowa Wireless Services, L.P. ("Iowa Wireless") is a Delaware limited partnership ultimately controlled by Iowa Network Services, Inc., an Iowa corporation. VoiceStream has a 38% limited partnership interest in Iowa Wireless. Iowa Wireless began operations in certain markets in 1998.

Iowa Wireless owns FCC licenses to provide wireless communications services in the following 13 BTA license areas. See "— PCS Governmental Regulation, Licensing of PCS Systems."

<u>MTA/BTA License Area</u>	<u>Population</u>	<u>Block</u>	<u>MHz</u>
<i>Des Moines-Quad Cities</i>			

Burlington	137,000	A, D	30 MHz
Cedar Rapids	280,000	A	20 MHz
Clinton-Sterling	146,000	A, D	30 MHz
Davenport-Moline	427,000	A	20 MHz
Des Moines	207,000	A	20 MHz
Dubuque	177,000	A	20 MHz
Fort Dodge	126,000	A	20 MHz
Iowa City	122,000	A	20 MHz
Marshalltown	56,000	A, D	30 MHz
Mason City	116,000	A, D	30 MHz
Ottumwa	123,000	A	20 MHz
Sioux City	341,000	A	20 MHz
Waterloo-Cedar Falls	259,000	A	20 MHz
<i>Iowa Wireless Total</i>	<u>2,517,000</u>		

Wichita PCS

VoiceStream manages the Wichita market under the VoiceStream brand name for Omnipoint Corp. ("Omnipoint") VoiceStream is reimbursed for the costs of managing this market. Omnipoint purchases VoiceStream's D Block service at wholesale in the Wichita, Hutchinson and Salina BTAs and resells VoiceStream service to its own customers. These operations are referred to as Wichita PCS. Wichita PCS provides wireless communications services using the following three FCC licenses.

<u>MTA/BTA License Area</u>	<u>Population</u>	<u>Block</u>	<u>MHz</u>
<i>Wichita</i>			
Hutchinson	124,000	D	10 MHz
Salina	143,000	D	10 MHz
Wichita	652,000	D	10 MHz
<i>Wichita PCS Total</i>	<u>919,000</u>		

STPCS

STPCS Joint Venture, LLC ("STPCS") is a Delaware limited liability company ultimately controlled by STPCS Investment, LLC. VoiceStream has an 18% membership interest in STPCS. STPCS, through its wholly owned subsidiaries, owns seven FCC licenses to provide wireless communications services in the following six BTA markets. See "— PCS Governmental Regulation, Licensing of PCS Systems."

<u>MTA/BTA License Area</u>	<u>Population</u>	<u>Block</u>	<u>MHz</u>
<i>San Antonio</i>			
Brownsville-Harlingen	353,000	D, F	20 MHz
Corpus Christi	556,000	D	10 MHz
Eagle Pass-Del Rio	120,000	F	10 MHz
Laredo	215,000	D	10 MHz
McAllen	594,000	D	10 MHz
	<u>1,838,000</u>		
<i>Houston</i>			
Victoria	164,000	F	10 MHz
<i>STPCS Total</i>	<u>2,002,000</u>		

Cook Inlet/VoiceStream PCS LLC

On February 12, 1999, VoiceStream formed a Delaware limited liability company, Cook Inlet/ VoiceStream PCS LLC. This LLC, like Cook Inlet PCS, is ultimately controlled by Cook Inlet Region, Inc., and is participating in FCC reauctions of C Block and F Block licenses.

VoiceStream Products and Services

VoiceStream provides a variety of wireless products and services designed to match a range of needs for business and personal use. VoiceStream currently offers several distinct services and features in its PCS systems, including:

- *Enhanced Features* — VoiceStream's systems offer caller identification, call hold, voice mail and numeric paging, as well as custom calling features such as call waiting, conference calling and call forwarding.

- *Messaging and Wireless Data Transmission* — Digital networks offer voice and data communications, including text messaging, through a single handset. VoiceStream believes that, as data transmission services develop, a number of uses for such services will emerge.
- *Call Security and Privacy* — Sophisticated encryption algorithms provide increased call security, encouraging users to make private, business and personal calls with significantly lower risk of eavesdropping than on analog-based systems.
- *Smart Card* — "Smart" cards, programmed with the user's billing information and a specified service package, allow subscribers to obtain PCS connectivity automatically, simply by inserting their smart cards into compatible PCS handsets.
- *Over-the-Air Activation and Over-the Air Subscriber Profile Management* — VoiceStream is able to transmit changes in the subscriber's feature package, including mobile number assignment and personal directory numbers, directly to the subscriber's handset.
- *Roaming* — Subscribers are able to roam throughout the United States, either on other GSM-based PCS systems operated by current licensees or by using dual-mode handsets that can be used on existing cellular systems. VoiceStream has entered into roaming agreements which allow its customers to roam on cellular systems. Dual-mode handsets allow roaming onto analog cellular systems.

VoiceStream Marketing, Sales and Customer Service

VoiceStream's sales and marketing strategy is to generate continued subscriber growth and increased subscriber revenues. In addition, VoiceStream targets a customer base which it believes is likely to generate higher monthly service revenues, while attempting to achieve a low cost of adding new subscribers. VoiceStream markets its services under a proprietary brand name, and sells its products and services through a combination of direct and indirect distribution channels.

Marketing — VoiceStream markets its PCS products and services under the proprietary VoiceStream brand name. VoiceStream's objective is to develop brand recognition of VoiceStream through substantial advertising and direct marketing in each of its PCS markets. In marketing its PCS services, VoiceStream emphasizes the enhanced features, privacy and competitive pricing of such services. VoiceStream concentrates its marketing efforts primarily on businesses and individuals "on-the-go," who benefit from integrated mobile voice, messaging and wireless data transmission capabilities, and enhanced features and services.

Sales — VoiceStream sells its products and services through a combination of direct and indirect channels. VoiceStream operates 90 company-owned retail sales locations and utilizes a direct sales force of over 680 persons. VoiceStream's training programs provide its sales employees with an in-depth understanding of VoiceStream's system, products and services so that they, in turn, can provide extensive information to prospective customers. Sales commissions generally are linked both to subscriber revenue and subscriber retention, as well as to activation levels.

VoiceStream believes that its local sales offices provide the physical presence in local markets necessary to position VoiceStream as a quality local service provider, and give VoiceStream greater control over both its costs and the sales process. VoiceStream also utilizes indirect sales through an extensive network of national and local merchant and specialty retailers. VoiceStream intends to continue to use a combination of direct and indirect sales channels, with the mix depending on the retail needs of each particular market.

In addition, VoiceStream acts as a retail distributor of handsets and maintains inventories of handsets. Although subscribers generally are responsible for purchasing or otherwise obtaining their own handsets, VoiceStream has historically sold handsets below cost to respond to competition and general industry practice and expects to continue to do so in the future.

Customer Service — Customer service is a significant element of VoiceStream's operating philosophy. VoiceStream is committed to attracting and retaining subscribers by providing consistently superior customer service. In Albuquerque, New Mexico, VoiceStream maintains a highly sophisticated monitoring and control system, a staff of customer service personnel and a well-trained technical staff to handle both routine and complex questions as they arise, 24 hours a day, 365 days a year.

VoiceStream implements credit check procedures at the time of sale and continuously monitors customer churn (the rate of subscriber attrition). VoiceStream believes that it helps manage its churn rate through an outreach program implemented through its sales force and customer service personnel. This program not only enhances subscriber loyalty, but also increases add-on sales and customer referrals. The outreach program allows the sales staff to check customer satisfaction, as well as to offer additional calling features, such as voice mail, call waiting and call forwarding.

VoiceStream Suppliers and Equipment Vendors

VoiceStream does not manufacture any of the handsets or network equipment used in its operations. The high degree of compatibility among different manufacturers' models of handsets and network equipment allows VoiceStream to design, construct and operate its systems without being dependent upon any single source of such equipment. The handsets and network equipment used in VoiceStream's operations are available for purchase from multiple sources, and VoiceStream anticipates that such equipment will continue to be available in the foreseeable future. VoiceStream currently purchases handsets primarily from Motorola Inc., Ericsson Inc., Mitsubishi Wireless Communications, Inc. and Nokia Mobile Phones, Inc. (together with its affiliate, Nokia). VoiceStream currently purchases network equipment primarily from Northern Telecom Inc. and Nokia.

VoiceStream Competition

Competition for subscribers among wireless licensees is based principally upon the services and features offered, the technical quality of the wireless systems, customer service, system coverage, capacity and price. Under current FCC rules, there may be up to seven PCS licensees in each geographic area in addition to the two cellular licensees. Also, SMR dispatch system operators have constructed digital mobile communications systems on existing SMR frequencies, referred to as ESMR, in many cities throughout the United States, including some of the markets in which VoiceStream operates.

VoiceStream is a relatively new entrant in a highly competitive market. VoiceStream's principal competitors are the cellular service providers in its markets, many of which have been operational for a number of years, and national PCS providers, many of which offer no or low cost roaming and toll calls. Many of VoiceStream's competitors have significantly greater financial and technical resources than those available to VoiceStream and provide comparable services in competition with VoiceStream's PCS systems. These competitors include AirTouch, AT&T Wireless, Bell Atlantic Mobile, Inc., GTE Mobilnet, Inc., Sprint PCS and US West. VoiceStream also competes with paging, dispatch and conventional mobile telephone companies, resellers and landline telephone service providers in its PCS markets. Potential users of wireless systems may, however, find their communications needs satisfied by other current and developing technologies. One or two-way paging or beeper services that feature voice messaging and data display as well as tone only service may be adequate for potential subscribers who do not need to speak to the caller. In the future, wireless service may also compete more directly with traditional landline telephone service providers.

VoiceStream's principal PCS competitors use standards other than GSM. As a result, VoiceStream's subscribers may not be able to conveniently use PCS services while roaming in areas outside its markets. US West and Sprint PCS use the CDMA standard. AT&T Wireless and Southwestern Bell use the TDMA standard.

The FCC requires all cellular and PCS licensees to provide service to "resellers." A reseller provides wireless service to customers but does not hold an FCC license or own facilities. The reseller buys blocks of wireless telephone numbers and capacity from a licensed carrier and resells service through its own distribution network to the public. Thus, a reseller is both a customer of a wireless licensee's services and also a competitor of that licensee. Several small resellers currently operate in competition with VoiceStream. With respect to PCS licensees, the resale obligations terminate five years after the last group of initial licenses of currently allotted PCS spectrum is awarded.

In the future, VoiceStream expects to face increased competition from entities providing similar services using other communications technologies. While some of these technologies and services are currently operational, others are being developed or may be developed in the future.

VoiceStream recognizes that technological advances and changing regulations have led to rapid evolution of the wireless telecommunications industry. At the end of 1996, the FCC transferred 200 MHz of spectrum previously allocated to federal government use to the private sector. In April of 1997, the FCC auctioned 30 MHz of spectrum for Wireless Communications Services, which can provide fixed or mobile telecommunications service. In late 1997, the FCC also auctioned 10 MHz of spectrum for SMR service, another potential competitor with PCS and cellular service. Moreover, in 1998, the FCC auctioned more than 1000 MHz of spectrum for Local Multipoint Distribution Service ("LMDS").

VoiceStream acquired 16 licenses as a result of such auction. During 1998, the FCC auctioned 25 MHz of spectrum for the General Wireless Communications Service, plus additional spectrum in the 220 MHz and 39 MHz bands. VoiceStream cannot foresee how technological progress or economic incentive will affect competition from these new services. In all instances, the FCC reserves the right to amend or repeal its service regulations and auction schedule.

VoiceStream Intellectual Property

VoiceStream holds federal trademark registration of the marks "VoiceStream" and "VoiceStream and Design," and has registered or applied for various other trade and service marks with the United States Patent and Trademark Office.

VoiceStream Organization

VoiceStream holds its FCC licenses and conducts all operations through a number of direct and indirect wholly-owned subsidiaries and through certain affiliates. Indirect wholly-owned subsidiaries of VoiceStream are the 49.9% limited partner of Cook Inlet PCS, the 38.0% limited partner of Iowa Wireless, the 18.0% member of STPCS, and the non-controlling member of Cook Inlet/VoiceStream LLC. In three BTAs, VoiceStream and Cook Inlet PCS each own a license for 10 MHz of PCS spectrum that are the subject of agreements allowing each of VoiceStream and Cook Inlet PCS to operate on the PCS systems built by VoiceStream in those BTAs.

PCS Governmental Regulation

The FCC regulates the licensing, construction, operation, acquisition and sale of PCS systems in the United States pursuant to the Communications Act of 1934, as amended from time to time, and the rules, regulations and policies promulgated by the FCC thereunder.

Licensing of PCS Systems

In order to increase competition in wireless communications, promote improved quality and service and make available the widest possible range of wireless services, federal legislation was enacted directing the FCC to allocate radio frequency spectrum for PCS by competitive bidding. A PCS system operates under a protected geographic service area license granted by the FCC for a particular market on one of six frequency blocks allocated for broadband PCS service. The FCC has divided the United States and its possessions and territories into PCS markets made up of 493 BTAs and 51 MTAs. Each MTA consists of at least two BTAs. As many as seven licensees will compete in each PCS service area. The FCC has allocated 120 MHz of radio spectrum in the 2 GHz band for licensed PCS services. The FCC divided the 120 MHz of spectrum into six individual blocks, each of which is allocated to serve either MTAs or BTAs. The spectrum allocation includes two 30 MHz blocks (A and B Blocks) licensed for each of the 51 MTAs, one 30 MHz block (C Block) (which has been split in some BTAs into two 15 MHz blocks) licensed for each of the 493 BTAs, and three 10 MHz blocks (D, E and F Blocks) licensed for each of the 493 BTAs. A PCS license will be awarded for each MTA or BTA in every block, for a total of more than 2,000 licenses. During 1997, the last of these auctions was completed; however, a reauction of certain C, D, E and F Block licenses is currently scheduled for 1999.

Under the FCC's current rules specifying spectrum ownership limits affecting broadband PCS licensees, no entity may hold licenses for more than 45 MHz of PCS, cellular and SMR services regulated as Commercial Mobile Radio Service ("CMRS") where there is significant overlap in any geographic area (significant overlap will occur when at least ten percent of the population of the PCS licensed service area is within the CGSA and/or SMR service area, as defined by the FCC). The FCC is currently reexamining these ownership limits.

Western Wireless owns cellular licenses serving markets that are wholly or partially within the Denver MTA and the Oklahoma City MTA, resulting in Western Wireless exceeding the FCC's current 45 MHz CMRS cross ownership restriction described above. Western Wireless has filed waiver requests with the FCC with respect to both MTAs, both of which are pending, and has been allowed to delay compliance with the ownership restriction until the FCC rules on the waiver requests. In the event that this restriction is not waived or the rule itself revised, either VoiceStream or Western Wireless will be obligated to divest sufficient portions of their markets in the Denver and Oklahoma City MTA to come into compliance with the rules. VoiceStream does not believe such restriction or any actions Western Wireless or VoiceStream is required to take to comply therewith will have a material adverse effect on VoiceStream due to the relatively minor geographic overlap.

All PCS licenses are granted for a ten year term, at the end of which they must be renewed. The FCC has adopted specific standards to apply to PCS renewals, under which the FCC will award a renewal expectancy to a PCS licensee that (i) has provided substantial service during its past license term and (ii) has substantially complied with applicable FCC rules and policies and the Communications Act. All 30 MHz PCS licensees, including VoiceStream, must construct facilities that offer coverage to one-third of the population of their service area within five years of their initial license grants and to two-thirds of the population within ten years. Licensees that fail to meet the coverage requirements may be subject to forfeiture of the license.

FCC rules restrict the voluntary assignments or transfers of control of C and F Block licenses. During the first five years of the license term, assignments or transfers affecting control are permitted only to assignees or transferees that meet the eligibility criteria for participation in the entrepreneur block auction at the time the application for assignment or transfer of control is filed, or if the proposed assignee or transferee holds other licenses for C and F Blocks and, at the time of receipt of such licenses, met the same eligibility criteria. Any transfers or assignments during the entire ten year initial license term are subject to an unjust enrichment penalty of acceleration of any installment payment plans should the assignee or transferee not qualify for the same benefits. Any transfers or assignments during the first five years of the initial license term are subject to an unjust enrichment penalty of forfeiture of bidding credits. In the case of the C and F Blocks, the FCC will conduct random audits to ensure that licensees are in compliance with the FCC's eligibility rules. Violations of the Communications Act or the FCC's rules could result in license revocations, forfeitures or fines.

For a period of up to ten years after the grant of a PCS license (subject to extension), a PCS licensee will share spectrum with existing licensees that operate certain fixed microwave systems within its license area. To secure a sufficient amount of unencumbered spectrum to operate its PCS systems efficiently and with adequate population coverage, VoiceStream will need to relocate many of these incumbent licensees. In an effort to balance the competing interests of existing microwave users and newly authorized PCS licensees, the FCC adopted (i) a transition plan to relocate such microwave operators to other spectrum blocks and (ii) a cost sharing plan so that if the relocation of an incumbent benefits more than one PCS licensee, the benefiting PCS licensees will share the cost of the relocation. Initially, this transition plan allowed most microwave users to operate in the PCS spectrum for a two-year voluntary negotiation period and an additional one-year mandatory negotiation period. The FCC has shortened the voluntary negotiation period by one year (without lengthening the mandatory negotiation period) for PCS licensees in the C, D, E and F Blocks. For public safety entities dedicating a majority of their system communications for police, fire or emergency medical services operations, the voluntary negotiation period is three years, with an additional two year mandatory negotiation period. Parties unable to reach agreement within these time periods may refer the matter to the FCC for resolution, but the incumbent microwave user is permitted to continue its operations until final FCC resolution of the matter. The transition and cost sharing plans expire on April 4, 2005, at which time remaining incumbents in the PCS spectrum will be responsible for their costs to relocate to alternate spectrum locations.

PCS systems are subject to certain Federal Aviation Administration regulations respecting the location, lighting and construction of transmitter towers and antennae and may be subject to regulation under the National Environmental Policy Act and the environmental regulations of the FCC. State or local zoning and land use regulations also apply to VoiceStream's activities. VoiceStream uses, among other facilities, common carrier point to point microwave facilities to connect cell sites and to link them to the main switching. These facilities are separately licensed by the FCC and are subject to regulation as to technical parameters and service.

VoiceStream has purchased its PCS licenses from private parties or the federal government. VoiceStream has used a combination of debt and equity financing to acquire such licenses. Some joint ventures in which VoiceStream is a member has utilized financing from the federal government to the extent available.

Transfers and Assignments of PCS Licenses

The Communications Act and FCC rules require the FCC's prior approval of the assignment or transfer of control of a license for a PCS system (proforma transfer of control does not require prior FCC approval). In addition, the FCC has established transfer disclosure requirements that require licensees who transfer control of or assign a PCS license within the first three years of their license term to file associated contracts for sale, option agreements, management agreements or other documents disclosing the total consideration that the licensee would receive in return for the transfer or assignment of its license. Non-controlling interests in an entity that holds a PCS license or PCS system generally may be bought or sold without FCC approval. Any acquisition or sale by VoiceStream of PCS interests may also require the prior approval of the Federal Trade Commission and the Department of Justice, if over a certain size, as well as state or local regulatory authorities having competent jurisdiction.

VoiceStream Employees and Labor Relations

VoiceStream considers its labor relations to be good and, to VoiceStream's knowledge, none of its employees is covered by a collective bargaining agreement. As of December 31, 1998, VoiceStream employed a total of approximately 1,834 people in the following areas:

<u>Category</u>	<u>Number of Employees</u>
Sales and marketing	771
Engineering	269
General and administration, including customer service	794

VoiceStream Foreign Ownership

Under the Communications Act, no more than 25% of an FCC licensee's capital stock may be indirectly owned or voted by non-U.S. citizens or their representatives, by a foreign government, or by a foreign corporation, absent an FCC finding that a higher level of alien ownership is not inconsistent with the public interest. In November 1997, the FCC adopted new rules, effective in February 1998, in anticipation of implementation of the World Trade Organization Basic Telecom Agreement ("WTO Agreement"). Formerly, potential licensees had to demonstrate that their markets offered effective competitive opportunities in order to obtain authorization to exceed the 25% indirect foreign ownership threshold. Under the new rules, this showing now only applies to non-WTO members. Applicants from WTO Agreement signatories have an "open entry" standard: they are presumed to offer effective competitive opportunities. However, the FCC reserves the right to attach additional conditions to a grant of authority, and, in the exceptional case in which an application poses a very high risk to competition, to deny the application. The limitation on direct foreign ownership in an FCC licensee remains fixed at 20%, with no opportunity to increase the percentage, and is unaffected by the FCC's new rules. VoiceStream has applied for and received FCC approval for foreign ownership of up to 39.9%. As of December 31, 1998, foreign ownership of VoiceStream is less than 30%.

The WTO Agreement also obligates signatories to open their domestic telecommunications markets to foreign investment and foreign corporations. The WTO Agreement will increase investment and competition in the United States, potentially leading to lower prices, enhanced innovation and better service. At the same time, market access commitments from WTO Agreement signatories will provide U.S. service suppliers opportunities to expand abroad.

Telecommunications Act of 1996 and Other Recent Industry Developments

On February 8, 1996, the Telecommunications Act of 1996 (the "Telecommunications Act") was signed into law, substantially revising the regulation of communications. The goal of the Telecommunications Act is to enhance competition and remove barriers to market entry, while deregulating the communications industry to the greatest extent possible. To this end, local and long-distance communications providers will, for the first time, be able to compete in the other's market, and telephone and cable companies will likewise be able to compete in each other's markets. To facilitate the entry of new carriers into existing markets, the Telecommunications Act imposes certain interconnection requirements on incumbent carriers. Additionally, all telecommunications providers are required to make an equitable and nondiscriminatory contribution to the preservation and advancement of universal service. VoiceStream cannot predict the outcome of the FCC's rulemaking proceedings to promulgate regulations to implement the new law or the effect of the new regulations on cellular service or PCS, and there can be no assurance that such regulations will not adversely affect VoiceStream's business or financial condition.

The Telecommunications Act codifies the policy that non-regional Bell operating company CMRS providers will not be required to provide equal access to long distance carriers, and relieved such CMRS providers of their existing equal access obligations. The FCC, however, may require CMRS carriers to offer unblocked access (i.e., implemented by the subscriber's

use of a carrier identification code or other mechanisms at the time of placing a call) to the long distance provider of a subscriber's choice. The FCC has terminated its inquiry into the imposition of equal access requirements on CMRS providers.

On July 26, 1996, the FCC released a Report and Order establishing timetables for making emergency 911 services available by cellular, PCS and other mobile service providers, including "enhanced 911" services that provide the caller's telephone number, location and other useful information. Cellular and PCS providers must be able to process and transmit 911 calls (without call validation), including those from callers with speech or hearing disabilities. If a cost recovery mechanism is in place and a Public Service Answering Point ("PSAP") requests and is capable of processing the caller's telephone number and location information, cellular, PCS, and other mobile service provider must relay a caller's automatic number identification and Cell Site location, and by 2001 they must be able to identify the location of a 911 caller within 125 meters in 67% of all cases. State actions incompatible with the FCC rules are subject to preemption. On December 1, 1997, the FCC required wireless carriers to transmit all 911 calls without regard to validation procedures intended to identify and intercept calls from non-subscribers.

On August 1, 1996, the FCC released a Report and Order expanding the flexibility of cellular, PCS and other CMRS providers to provide fixed as well as mobile services. Such fixed services include, but need not be limited to, "wireless local loop" services, e.g., to apartment and office buildings, and wireless backup to PBXs and local area networks, to be used in the event of interruptions due to weather or other emergencies. The FCC has not yet decided how such fixed services should be regulated, but it has proposed a presumption that they be regulated as CMRS services.

On August 8, 1996, the FCC released its order implementing the interconnection provisions of the Telecommunications Act. The FCC's decision is lengthy and complex and is subject to petitions for reconsideration and judicial review (as described below), and its precise impact is difficult to predict with certainty. However, the FCC's order concludes that CMRS providers are entitled to reciprocal compensation arrangements with local exchange carriers ("LECs") and prohibits LECs from charging CMRS providers for terminating LEC-originated traffic. Under the rules adopted by the FCC, states must set arbitrated rates for interconnection and access to unbundled elements based upon the LECs' long-run incremental costs, plus a reasonable share of forward-looking joint and common costs. In lieu of such cost-based rates, the FCC has established proxy rates to be used by states to set interim interconnection rates pending the establishment of cost-based rates. The FCC has also permitted states to impose "bill and keep" arrangements, under which CMRS providers would make no payments for LEC termination of calls where LECs and CMRS providers have symmetrical termination costs and roughly balanced traffic flows. However, the FCC has found no evidence that these conditions presently exist. The relationship of these charges to the payment of access charges and universal service contributions has not yet been resolved by the FCC. LECs and state regulators filed appeals of the interconnection order, which have been consolidated in the US Court of Appeals for the Eighth Circuit. The Court has vacated many of the rules adopted by the FCC, including those rules governing the pricing of interconnection services, but specifically affirmed the FCC rules governing interconnection with CMRS providers. In January 1998, the U.S. Supreme Court agreed to review the Eighth Circuit decision. In January 1999, the U.S. Supreme Court reversed many aspects of the Eighth Circuit's judgment, holding that: (i) the FCC has general jurisdiction to implement the 1996 Act's local-competition provisions; (ii) the FCC's rules governing unbundled access are consistent with the 1996 Act, except for Rule 319, which gives requesting carriers blanket access to network elements; and (iii) the "pick and choose" rule is a reasonable interpretation of the 1996 Act. The FCC will now have to reexamine the list of unbundled network elements that incumbent local exchange carriers must offer to competitors. Furthermore, as a result of the Supreme Court's vacating and remanding the Eighth Circuit's ruling that the FCC lacked authority to set local pricing standards, the Eighth Circuit will have to decide whether the FCC's total-element long-run incremental cost methodology for setting interconnection and unbundled network element rates violates the 1996 Act.

In its implementation of the Telecommunications Act, the FCC recently established new federal universal service rules, under which wireless service providers for the first time are eligible to receive universal service subsidies, but also are required to contribute to both federal and state universal service funds. For the first quarter of 1998, the FCC's universal service assessments amount to 0.72% of interstate and intrastate telecommunications revenues for schools, libraries and rural healthcare support mechanisms and an additional 3.19% of interstate telecommunications revenues for high cost and low income support mechanisms. Various parties have challenged the FCC's universal service rules, and the cases have been consolidated in the U.S. Court of Appeals for the Fifth Circuit. VoiceStream cannot predict the outcome of this proceeding.

The FCC has adopted rules on telephone number portability which will enable subscribers to migrate their landline and cellular telephone numbers to a PCS carrier and from a PCS carrier to another service provider. Various parties have challenged the number portability requirements as they apply to CMRS providers. These challenges are still pending at the FCC and in the courts. VoiceStream can not predict the outcome of such challenges. In February 1999, the FCC extended the deadline for CMRS carriers to implement service provider local number portability until November 24, 2002.

The 1996 Act applied the FCC's long-standing rate integration policy to all providers of interstate, interexchange services, including CMRS. Generally, rate integration requires interstate telecommunications companies to provide interstate long distance services to their customers in each state, including U.S. territories, at rates no higher than those they charge to their customers in other states. The FCC is in the process of determining how best to encourage CMRS providers to move forward with innovative pricing plans in light of the rate integration mandate of the 1996 Act. The matter is currently the subject of an appeal before the United States Court of Appeals for the District of Columbia Circuit.

The Compliance with Communications Assistance for Law Enforcement Act ("CALEA"), enacted by Congress on October 25, 1994, requires telecommunications carriers to ensure that their facilities are technically capable of assisting law enforcement officials to use wiretaps and like devices to intercept and/or isolate subscriber communications. The compliance deadline has been extended until June 30, 2000. Compliance with CALEA requirements could result in substantial costs for CMRS carriers, including Western Wireless and VoiceStream.

Item 2. PROPERTIES

Western Wireless Cellular Properties

In addition to the direct and attributable interests in cellular licenses, paging licenses and other similar assets discussed previously, Western Wireless leases its principal executive offices located primarily in Issaquah and Bellevue, Washington. Western Wireless and its subsidiaries and affiliates also lease and own locations for inventory storage, microwave, Cell Site and switching equipment and local sales and administrative offices. Western Wireless is currently seeking additional space in or near Bellevue to support the growth of its principal executive offices.

Western Wireless currently leases a cellular customer call center in Issaquah, Washington and has announced its intention to build a new call center in Manhattan, Kansas during 1999, which is expected to support Western Wireless' anticipated subscriber growth for the foreseeable future.

VoiceStream PCS Properties

In addition to the direct and attributable interests in PCS licenses and other similar assets discussed previously, VoiceStream leases its principal executive offices located in Bellevue, Washington, and leases its customer service center located in Albuquerque, New Mexico. VoiceStream and its subsidiaries and affiliates lease and own locations for inventory storage, microwave, cell site and switching equipment, sales and administrative offices, and retail stores.

VoiceStream leases from the City of Albuquerque a customer call center in Albuquerque, New Mexico. This facility is approximately 65,000 square feet and is expected to support VoiceStream's anticipated subscriber growth for the foreseeable future.

VoiceStream leases a distribution center in Denver, which stores and distributes handset inventory for all of Western Wireless' cellular and VoiceStream's PCS operations. The facility has adequate space to support the growth of both distribution networks.

Item 3. LEGAL PROCEEDINGS

There are no material, pending legal proceedings to which Western Wireless or any of its subsidiaries or affiliates is a party or to which any of their property is subject which, if adversely decided, would have a material adverse effect on Western Wireless or any of its subsidiaries or affiliates.

Item 4. SUBMISSION OF MATTERS TO A VOTE OF SECURITY HOLDERS

None.